

SOV/96-59-5-8/19

A New Type of Non-Tubular Regenerator for Gas-Turbine Installations

cold-rolled steel sheet is shown in Fig 2. Regenerator heating surfaces may be made by assembling these ribbed plates either as shown in Fig 3a or as shown in Fig 3b. In each case gas flows through the channels between one pair of sheets and air between the next pair of sheets and so on. The arrangement of headers is sketched in Fig 4. The units can be used to build up a regenerator heating surface which may be either rectangular or cylindrical. Regenerators based on this construction were designed for a gas turbine of 50 MW, the operating conditions of which are given. A sketch of the rectangular form of regenerator is given in Fig 5: two such units are required for a 50 MW turbine. The construction of the regenerator is described and performance and other relevant data are recorded in Table 2. A cylindrical regenerator in which the air is delivered to the outside of the cylinder is illustrated in Fig 6 and the construction is described. If necessary, the central part of the regenerator may be used to by-pass

Card 2/3

SOV/96-59-5-8/19

A New Type of Non-Tubular Regenerator for Gas-Turbine Installations

some of the gas. Performance and other useful data are given in the second part of Table 2. Other arrangements are, of course, possible and a sketch of a design with internal air supply is offered in Fig 7. It is concluded that ribbed-sheet surfaces have considerable possibilities for regenerator design. The types of regenerator described in the article are much cheaper and smaller than existing types. There is no special difficulty in manufacturing or assembling the new regenerators. There are 7 figures, 2 tables and 2 references, 1 of which is Soviet and 1 English.

ASSOCIATION: Vsesoyuznyy Teplo tekhnicheskiy Institut (All-Union Thermo-Technical Institute)

Card 3/3

KLITIN, N.P., inzh.; NECHAYEV, V.A., inzh.; LOKSHIN, V.A., kand.tekhn.nauk

Results of testing the GTU-600-1.5 plate regenerator.
Teploenergetika 8 no.5:11-17 My '61.

(MIRA 14:8)

1. Yuzhnoye otdeleniye Gosudarstvennogo tresta po organizatsii i
ratsionalizatsii elektrostantsiy; Khar'kovskiy tekhnologicheskii
institut i Dneproenergo.
(Gas turbines)

KLITIN, N.P., inzh.; LOKSHIN, V.A., kand.tekhn.nauk

Heat transfer and resistance of finned bundles. Teploenergetika
8 no.7:53-57 J1 '61. (MIRA 14:9)

1. Vsesoyuznyy teplotekhnicheskiy institut.
(Gas turbines) (Air preheaters)

KLITIN, N.P., inzh.; LOKSHIN, V.A., kand. tekhn. nauk

Heat transfer and resistance of longitudinally ribbed pipes.
Teploenergetika 11 no.5:79-83 My'64. (MIRA 17:5)

1. Vsesoyuznyy teploekhnicheskii institut.

KLITINA, L.V.

Brief petrographic characterization of coals in the new deposits of the Kama coal-bearing area. Izv.vys.ucheb.zav.; geol. i razv. 5 no.5:48-58 My '62.
(MIRA 15:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy institut (VSEGEI).
(Kama Valley—Coal—Classification)

KLITINA, N.A., inzh.

Waterproofer with a base of polystyrene resin. Sbor. trud. NII
po stroi. ASIA [Roat.] no.6:65-72 '62. (MIRA 17:9)

KLITINA, S.Ya., assistant

Oscillography in hypertension. Nauch.trudy L'vov.obl.'terap.ob-za
no.1:131-134 '61. (MIRA 16:5)

1. Kafedra propedevticheskoy terapii lechebnogo fakul'teta
L'vovskogo meditsinskogo instituta (zav. kafedroy - dotsent
V.I. Chernov).

(HYPERTENSION) (OSCILLOGRAPHY)

KLITINA, S.Ye.

Phenatine treatment in hypertension. Nauch.trudy L'vov.obl.terap.
ob-va no.1:271-274 '61. (MIRA 16:5)

1. Kafedra propedevticheskoy terapii lechebnogo fakul'teta L'vov-
skogo meditsinskogo instituta (sav. kafedroy - dotsent V.I.
Ghernov).

(HYPERTENSION) (NICOTINAMIDE)

PETROV, I.T.; POVKH, B.V.; ELIKHARSKIY, B.A.; CHERNOV, V.I. [deceased];
KLITINA, S.Ye.; ROZANOV, Ye.M.; SHUFLAT, A.N.

Incidence of influenza and acute catarrhs of the upper respiratory tracts in miners of Chervonograd, Lvov-Volyn' Basin. Vrach. delo no.1:105-109 Ja'64.
(MIRA 17:3)

1. Chervonogradskaya mediko-sanitarnaya chast' kombinata Ukrspadugeol' (for Petrov, Povkh, Elikharakiy). 2. Kafedra propedevticheskoy terapii lechebnogo fakul'teta - sav. dotsent V.I.Chernov [deceased]) L'vovskogo meditsinskogo instituta (for Klitina, Rozanov, Shuflat).

PLOSHKO, V.V.; KLITINA, V.I.

Polymetamorphism of geosynclinal basite series within the
Cambrian-Silurian greenstone layer in the Little Loba Valley.
Trudy IGEM no. 77:225-256 '62. (MIRA 16:2)
(Loba Valley--Metamorphism (Geology))
(Loba Valley--Greenstone)

ALIMARIN, I.P.; SUDAKOV, F.P.; KLITINA, V.I.

Extraction of heteropoly compounds and its use in inorganic
analysis. Usp. khim. 34 no.8:1368-1387 Ag '65.

(MIRA 18:8)

L 34375-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR. AP6010717

SOURCE CODE: UR/0189/66/000/001/0098/0100

AUTHOR: Sudakov, P. P.; Klitina, V. I.; Maslova, N. T.

ORG: Analytic Chemistry Department, Moscow State University (Kafedra analiticheskoy khimii, Moskovskiy gosudarstvennyy universitet)

TITLE: Extractive photometric determination of phosphorus and silicon in the form of their reduced heteropoly acids

SOURCE: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 1, 1966, 98-100

TOPIC TAGS: phosphorus, silicon, phosphorus compound, molybdenum compound, silicon compound, photometric analysis

ABSTRACT: An attempt was made to develop selective and sensitive methods of determining phosphorus and silicon by combining extraction with reactions of reduction of phosphomolybdic acid (PMA) and silicomolybdic acid (SMA) by stannous oxalate. The reduction products of PMA and SMA, obtained at both pH 1.8 and pH 5.0, are satisfactorily extracted with oxygen- and nitrogen-containing extractants, and their extractability depends strongly on the acidity of the aqueous phase, nature of the extractant, and other factors. As a rule, the extractability of reduced PMA and SMA improves with increasing acidity, but optimum conditions exist at pH 5.0. The extracts are stable with time and obey Beer's law. The most suitable method for determining phosphorus

Card 1/2

UDC: 541.14 + 541.15 + 772/773

Card 3/2 APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723210003

KLITINA, V.I.; SUDAKOV, F.P.; ALIMARIN, I.P.

Extraction of reduced phosphomolybdic acid with oxygen-containing solvents. Zhur. anal. khim. 20 no. 11:1145-1152
165 (MIRA 19:1)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
Submitted October 14, 1964.

DOLENKO, G.N.; KLITUCHENKO, I.F.

Structure of the Delina oil field. Geol.sber. [Lvov] no.2/3:273-
280 '56. (MIRA 10:3)

1. Institut geologii polessnykh iskopayemykh AN USSR, L'vov.
(Delina--Petroleum geology)

ARSIRIY, Yu.A.; BLANK, M.I.; BLIZNYUK, V.F.; GLUSHKO, V.V.;
KLITOCHENKO, I.F.; LITVINOV, V.R.; PALIY, A.M.; PAN'KIV, A.M.;
PISTRAK, R.M.; CHERPAK, S.Ye.; CHIRVINSKAYA, M.V.; YARCHENKO, L.M.

Plan for the areal study of the Dnieper-Donets Lowland. Trudy
VNIIGAZ no.14:3-17 '62. (MIRA 15:5)
(Dnieper-Donets Lowland—Petroleum geology)
(Dnieper-Donets Lowland—Gas, Natural—Geology)

KLITOCHENKO, Ivan
GONTA, Timofey Timofeyevich; GORNY, Nikolay Alekseyevich; KLITOCHENKO,
Ivan Filipovich; MIKHAYLOV, Konstantin Fedorovich; DUBROVINA, N.D.,
vedushchiy red.; MUKHINA, E.A., tekhn.red.

[Petroleum and natural gas in the Ukraine] Neft' i prirodnyi gas
Ukrainy. Moskva, Gos.nauchno-tekhn. izd-vo neft. i gorno-toplivnoi
lit-ry, 1957. 78 p. (MIRA 11:1)
(Ukraine--Petroleum) (Ukraine--Gas, Natural)

KLITOCHENKO I.F.

VYSOTSKIY, I.V.; YEREMENKO, N.A.; KLITOCHENKO, I.F.; KORNILYUK, Yu.I.
MAKSIMOV, S.P.

Classification of drilled wells. Geol. nefti 1 no.8:8-12 Ag '57.
(MIRA 10:12)
(Oil wells--Classification)

KLITUCHENKO, I.F.; MURCHENY, A.S.; BARANOV, I.O.; MARTYNOV, A.A.

Oil-and gas-bearing prospects of the eastern part of the Dnieper-
Donets Lowland. Geol. nefti i no.9:1-7 & '57. (MIRA 10:9)
(Dnieper Lowland--Petroleum geology)
(Dnieper Lowland--Gas, Natural--Geology)
(Donets Basin--Petroleum geology)
(Donets Basin--Gas, Natural--Geology)

KLITOCHENKO, I. F.
BURSHAR, M.S.; KLITOCHENKO, I. F.

Geological structure and oil- and gas-bearing prospects in the northern Black Sea and Azov regions. Geol.nefti 1 no.10:1-8 0 '57.

(MIRA 10:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologo-razvedochnyy neftyanoy institut, Ob'edineniye "Ukrneft'."

(Black Sea region--Petroleum geology)

(Black Sea region--Gas, Natural--Geology)

(Azov region--Petroleum geology)

(Azov region--Gas, Natural--Geology)

OLUSHKO, V.V.; KLITCHENKO, I.P.; MAKIMOV, S.P.

Comparative estimation of oil and gas potentials of the Ukrainian
S.S.R. Geol. نفت Supplement to no. 7:21-33 '58. (MIRA 11:8)
(Ukraine--Petroleum geology)
(Ukraine--Gas, Natural--Geology)

KLITICHENKO, I. F.

3(5)

PHASE I BOOK EXPLOITATION

SOV/2682

Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut

Voprosy poiskov, razvedki i dobychi nefi i gaza na territorii USSR; doklady na vyezdnoy sessii uchnykh sovetov VNIIGI i VNII, prokhodivshoy v g. L'vove v maye 1957 g. (Problems in the Exploration and Production of Oil and Gas in the Ukrainian SSR; Reports Presented at a Session of the Scientific Councils of the All-Union Petroleum Scientific Research Institute for Geological Survey and the All-Union Scientific Research Institute, in Lvov, May 1957) Moscow, Gostoptekhnizdat, 1959. 282 p. 1,000 copies printed.

Additional Sponsoring Agency: USSR. Ministerstvo geologii i okhrany nedr.

Eds.: I. G. Baranov, V. V. Glushko, and A. S. Muromtsev; Executive Eds.: S. M. Yungans, and A. I. Zaretskaya; Tech Ed.: I. G. Fedotova.

PURPOSE: This book is intended for petroleum geologists and Ukrainian area specialists.

COVERAGE: This book contains 27 reports originally read at a meeting of the scientific councils of the VNIIGI (All-Union Petroleum Scientific Research Institute for Geological Survey), the VNII (All-Union Scientific Research

Card 1/4

Problems in the Exploration (Cont.)

80V/2682

Safarov, I. P. Differentiating the Productive Series of the Dolina Deposit	106
Shakin, V. A. Stratigraphic Differentiation and Correlation of the Oligocene Formation of the Eastern Carpathians	116
Khokhlov, P. S. Characteristic Features of the Geologic Structure of the Dnepr-Donets Depression and the Northern Fringes of the Donbass	121
Baranov, I. G., I. F. Klitochenko, A. A. Martynov, A. S. Murotssev, and N. A. Samborskiy. Gas and Oil Possibilities of the Devonian Formations of the Southeastern Part of Dnepr-Donets Depression	138
Martynov, A. A., and N.A. Samborskiy, S.Ye. Cherpak. Oil and Gas Possibilities in the Devonian Formations of the Kolaydinskaya Area (Southwestern Edge of the Dnepr-Donets Depression)	150

Card 4/7

BONDARCHUK, V.O., akademik, otv.red.; PORFIR'YEV, V.O., akademik, red.; KOZIN, Ya.D., doktor geol.-miner.nauk, red.; KAPTARENKO-CHEKNOUSOVA, O.K., doktor geol.-miner.nauk, red.; SHUL'GA, P.L., doktor geol.-miner.nauk; KLIMENKO, V.Ya., kand.geol.-miner.nauk, red.; MOLEYAVKO, O.I., kand.geol.-miner.nauk, red.; KLITOCHENKO, I.F., red.; MUROMTSEV, A.S., red.; MUKHIN, A.V., red.; CHERPAK, S.I., red.; MANVELOVA, K.K., mladshiy nauchnyy sotrudnik, red.; MEL'NIK, A.F., red.isd-va; MILKHEIN, I.D., tekhn.red.

[Geology, and oil and gas potentials of eastern regions in the Ukraine; proceedings of the conference on oil and gas potentials of the Ukraine] Geologicheskoe stroenie i neftegazonosnost' vostochnykh oblastei Ukrainy; trudy nauchno-proizvodstvennogo soveshchaniya po probleme neftegazonosnosti Ukrainy, 27 fevralia - 3 marta 1956 g. Kiev, 1959. 436 p. (MIRA 13:3)

1. Akademiya nauk USSR, Kiev, Institut geologicheskikh nauk.
 2. AN USSR (for Bondarchuk, Porfir'yev). 3. Glavnyy geolog ob'yedineniya "Ukrneft'" (for Klitochenko). 4. Direktor Ukrainskogo otdeleniya Vsesoyuznogo nauchno-issledovatel'skogo geologo-rasvedochnogo neftyanogo instituta (VNIIGI) (for Murontsev). 5. Glavnyy inzhener tresta "Ukrneftegeofizika" (for Mukhin). 6. Glavnyy geolog tresta "Ukrvostoknefterasvedka" (for Cherpak). 7. Institut geologicheskikh nauk AN USSR (for Manvelova).
- (Ukraine--Petroleum geology) (Ukraine--Gas, Natural--Geology)

14(5)

SOV/9-59-7-3/15

AUTHORS: Dolenko, G.N., and Klitochenko, I.P.

TITLE: Oil and Gas Possibilities of the L'vovskiy Paleozoic Depression

PERIODICAL: Geologiya nefti i gaza, 1959, Nr 7, pp 12 - 15 (USSR)

ABSTRACT: Information is given on singling out of gas and oil bearing zones in the L'vovskiy depression, by using available geological and geophysical data. The L'vovskiy depression is characterized by strong tectonic deformations which caused the formation of complicated substructures and faults, accompanied by terrace-shaped elevations. There are three main faults: The Kalush-Menirowskiy fault accompanied by the upheaval zone of the so-called marginal plateau elevation; the L'vovskiy fault accompanied by the zone of the L'vovskiy terrace-shaped elevation and the Kameno-Bugskiy fault accompanied by the Milyatin-Kulichkovskiy upheaval zone. The mentioned faults can be referred to the type of plutonic breaks which are characterized by considerable extension and depth and by a prolonged development period extending over whole geological stages. This continuous development entailed changes of the rock thicknesses and the introduction of terrigenous components into the sedimentary series. In zones of extended plutonic break cracks

Card 1/3

SOV/9-59-7-3/15

Oil and Gas Possibilities of the L'vovskiy Paleozoic Depression

were formed in the strata which improved collecting properties of stratigraphic horizons and the development of local structures. This furthered the formation of gas and oil fields. Plutonic breaks had a particular importance since they apparently formed passages for oil migration from the areas of origin into trap structures enclosing the rock-collectors. These conduits were situated in areas of maximum deformation. It is concluded that best gas and oil possibilities in the L'vovskiy Paleozoic depression existed in the marginal plateau zone and in the Milyatin-Kulichkovskiy upheaval. These areas possess all necessary conditions for oil and gas formation, such as rock-collectors, trap structures and disjunctive deformations, forming passages for oil migration. This opinion is supported by other scientists including G.Kh. Dikenshteyn [Ref 3, 4], D.P. Naydin [Ref 5], V.V. Olushko, I.P.

Card 2/3

KLITUCHENKO, I.P.

Results of oil and gas prospecting in the Ukrainian S.S.R. in 1960
and prospecting outlook for 1961. Geol. nefi i gaza 5 no. 5:1-6
My '61. (MIRA 14:1)

1. Glavgeologiya USSR.

(Ukraine—Petroleum geology) (Ukraine—Gas, Natural—Geology)

GUREVICH, B.L.; KLITCHENKO, I.F.; CHIRVINSKAYA, M.V.

Oil and gas prospecting trends in the Black Sea region. Geol.
nefti i gaza 5 no.6:6-10 3s '61. (MIRA 14:6)

1. Trest Ukrgeofizrazvedka, Glavgeologiya USSR.
(Black Sea region--Petroleum geology)
(Black Sea region--Gas, Natural--Geology)

KLITUCHENKO, I.F.; PALIV, A.M.

Results of geological prospecting in the Ukrainian S.S.R. for
1961. Geol.nefti i gaza 6 no.5:9-16 My '62. (MIRA 15:5)

1. Glavnoye upravleniye geologii i okhrany neдр pri Sovets
Ministroy USSR.
(Ukraine—Petroleum geology) (Ukraine—Gas, Natural—Geology)

BROD, I.O.; VITRIK, S.P.; GORDIYEVICH, V.A.; KLITCHENKO, I.F.,
KOSOROTOV, S.P.; PALIY, A.M.; POPOV, V.S.

Evaluating the results and the measures for improving prospecting
for oil and gas fields in the Ukraine. Geol.neft i gaz 6
no.10:1-12 0 '62. (MIRA 15:12)

1.Glavnoye upravleniye geologii i okhrany nedr pri Sovete
Ministrov UkrSSR, Ministerstvo geologii i okhrany nedr SSSR i
Moskovskiy gosudarstvennyy universitet.

(Ukraine—Petroleum: geology)
(Ukraine—Gas, Natural—Geology)

KLITUCHENKO, I.F.; ANTISUPOV, P.V.; VUL', M.A.

Prospects of oil and gas in the Pokutye section of the Carpathians.
Geol.neft i gaza 6 no.10:13-17 0 '62. (MIRA 15:12)

1. Glavnoye upravleniye geologii i okhrany neдр pri Sovets
Ministroy UkrSSR i Ukrainakiy nauchno-issledovatel'skiy
geologorazvedochnyy institut.

(Pokutye region—Petroleum geology)
(Pokutye region—Gas, Natural—Geology)

KLITICHENKO, I.F.; SAMBORSKIY, N.A.

New data on box folds in the Dnieper-Donets Lowland. Geol.
nefti i gaza 7 no.8:30-35 Ag '63. (MIRA 16:10)

1. Trest Poltavaneftegasrazvedka.

GLUSHKO, Vasil'y Vasil'yevich; KLITSCHENKO, Ivan Filippovich;
KRAMARENKO, Vladimir Nikolayevich; MAKSIMOV, Stepan
Pavlovich; CHIRVINSKAYA, Marina Vladimirovna;
OVCHINNIKOVA, S.V., red.; VORONOVA, V.V., tekhn. red.

[Geology of oil and gas fields in the Ukrainian S.S.R.]
Geologiya nefiannykh i gazovykh mestorozhdenii Ukrain-
skoi SSR. Moskva, Oostoptekhhizdat, 1963. 314 p.
(MI.A 1712)

AGISHIN, A.P.; KLITOMENKO, I.P.; LAIKIN, I.Ya.; PALLIY, A.M.; STERLIN, B.P.;
TIBONZEVSКИЙ, S.A.; TRACHISHIN, S.V.

New gas-bearing area in the southeastern section of the Inieper-
Donets Lowland. Gaz. prom. 2 no.12:4-6 '63 (MIRA 18:2)

CHIRVINSKAYA, M. V.; KRAMARENKO, V. N.; KLITOCHENKO, I. F.

"Tectonic and facies conditions as a factor of oil and gas accumulation
in the Ukrainian SSR."

report submitted for 22nd Sess, Intl Geological Cong, New Delhi, 14-22
Dec 1964.

KLITUCHENKO, I.F.; PALIY, A.M.

Results of geological prospecting for oil and gas in the
Ukraine for 1963. Geol. nefiti i gaza 8 no.4:4-9 \ Ap '64.
(MIRA 17:6)
1. Glavnoye upravleniye geologii i okhrany nedr pri Sovete
Ministrov UkrSSR.

BLIZNYUK, V.F.; GAVRISH, V.K.; GRITSAY, Ye.T.; KEL'BAS, B.I.; ALITOSHENKO, I.F.;
MARTYNOV, A.A.; PALIY, A.M.; POPOV, V.S.; SHAYKIN, I.M.; YARCHENKO, L.M.

Stratigraphic boundaries and oil and gas potentials of the
Upper Cretaceous sediments in the Dnieper-Donets Lowland.
Geol. nefti i gaza 8 no.4:28-35 Ap '64. (MIRA 17:6)

1. Glavnoye upravleniye geologii i okhrany neдр pri Sovete
Ministrov UkrSSR, Kiyevskaya ekspeditsiya tresta Ukregеофизразведка,
Kiyevskaya ekspeditsiya Ukrainского nauchno-issledovatel'skogo
geologorazvedochnogo instituta i Chernigovskaya ekspeditsiya
Ukrainского nauchno-issledovatel'skogo geologorazvedochnogo
instituta.

KIJTOCHENKO, I.F.; KRAVARENKO, V.N.; PALTU, A.M.

Brief digest of the history of the development of petroleum production in the Ukraine. Geol. нефти i gaza 8 no.9:12-37 3 '64. (MIRA 17:11)

1. Glavnoye upravleniye geologii i okhrany neдр pri Sovete Ministrov UkrSSR i Ukrainskiy nauchno-issledovatel'skiy geologorazvedochnyy institut.

BALUKHOVSKIY, N.F.; GAVRISH, V.K.; KLITOCHENKO, I.Y.; POPOV, V.S.

Concerning the super-deep Dnieper-Donets oil well. Neft, i gas.
prom. no.413-6 O-D '64 (MIRA 1812)

VASIL'YEV, V.G.; VOROB'YEV, B.S.; DUDKO, N.A.; ZIL'BERMAN, V.I.; KLITCHENKO,
I.F.; LITVINOV, V.R.; TKHORZHEVSKIY, S.A.; CHERPAK, S.I.

Present status of and prospects for the development of the pro-
duction of natural gas in the eastern Ukrainian oil- and gas-
bearing region. Gaz. prom. 10 no.411-6 '65.

(MIRA 18:5)

KLITSCHEVKO, I.F.

Oil and gas prospecting in the Ukrainian S.S.R.; results for
1964 and problems for 1965. Geol. nefi gaza 9 no.6:1-4 Ja
'65. (MIRA 18:8)

1. Glavnoye upravleniye geologii i okhrany nedr pri Sovete
Ministrov UkrSSR.

CHIEVICKAYA, N.Y.; GIBSON, RAY, T.S.; GIBSON, R.S.; BLITZBERG, I.F.

Buried Paleocene structures in the south-eastern part of the
Dnieper-Donets basins. Geol. natif. i gorn.; no. 517-22 Ju
1965.
(Vost. 18:13)

1. Ukrainskiy nauchno-issledovatel'skiy tsentr razvozhnogo
instituta, Kiev; Glavnoye upravleniye geologii i ochrany nefti pri
Sovete Ministrov SSR i trest Ukrgeofizrazvedka.

KLITOCHENKO, I.T.

Results of and further trends in geological prospecting for oil
and gas. Geol.shur.22 no.1:3-13 '62. (MIRA 15:2)

1. Glavnoye geologo-razvedochnoye upravleniye USSR.
(Ukraine—Prospecting)

L 46010-66 EWT(1) 7W

ACC NR: AR6029454

SOURCE CODE: UR/0169/66/000/005/D017/D017

AUTHOR: Andreyeva, R. I. ; Gdalevskaya, Ts. M. ; Lositskaya, Ye. P. ;
Klitochenko, T. I. ; Marchenko, A. P. ; Razumenko, G. F. ; Sokolova, N. T. ;
Chayka, V. G.

TITLE: Compilation of composite seismic maps of the southeastern part of the
Dnepr-Donets basin

SOURCE: Ref. zh. Geofizika, Abs. 5D115

REF SOURCE: Tr. Ukr. n.-i. geologorazved. in-t, vyp. 14, 1965, 132-139

TOPIC TAGS: Dnepr basin seismic map, Donets basin seismic map

ABSTRACT: A second interpretation is made of seismic data obtained for the
southeastern part of the Dnepr-Donets basin, using supplementary data obtained
in drillings. Structural maps to the scale of 1:50,000 and 1:100,000 are plotted
for four horizons, from the Cenomanian to the Lower Permian. Iso-pachous line
maps, plotted on the basis of data obtained in seismic exploration, are also
discussed. A detailed analysis is made of the tectonic structure of the Upper
Paleozoic, Mesozoic, and Cenozoic stages on the basis of the above-mentioned

Card 1/2

UDC: 550.834

L 46010-66

ACC NR: AR6029454

maps. A regional subdivision is made of the territory from the point of view of natural gas and petroleum deposits. A. Titkov. [Translation of abstract] [SP]

SUB CODE: 08/

Card 2/2 *mt*

1. KLITROV, F. M., M. D.
2. USSR (600)
4. Limberg, A. A.
7. In answer to Prof. A. A. Limberg's article, "Geometric and biologic aspects in repair of external nose with twisted and doubled flat skin graft." Stomatologia no. 4 1952

9, Monthly List of Russian Accessions, Library of Congress, February 1953.
Unclassified.

KLITSA, B., red.; SKVORTSOVA, L., tekhn.red.

[For technological progress in industry] Za tekhnicheskii
progress v promyshlennosti. Kostroma, Kostromskoe knizhnoe
izd-vo, 1960, 85 p. (MIRA 14:1)
(Kostroma--Industries) (Technological innovations)

SOKOLOV, Konstantin Nikolayevich; KLITSA, B., red.; SKVORTSOVA, L., tekhn.
red.

[Masters of biological desiccation] Masistra biologicheskoi sushki.
Kostroma, Kostromskoe knizhnoe izd-vo, 1960. 25 p. (MIRA 14:10)
(Lumber--Drying)

DVORNIKOV, Makar Matveyevich; KLITSA, B., red.

[Mechanization of free floating drive; from practices of
the Makar'ev Floating Station] Mekhanizatsiia molevogo
splava; iz opyta Makar'evskoi splavnoi kontroy. [n.p.]
Kostromskoe knizhnoe izd-vo, 1963. 38 p. (MIRA 18:9)

KLITSA, Z.L.

Metallurgical Abst.

Vol. 21 May 1954

Electrometallurgy and Electrochemistry

"Rate of Decomposition of Sodium Amalgam in Alkaline Solutions. G. I. Yefrey and Z. L. Klitsa (Zhar. Irbid. Khim., 1952, No. (2), 154-158 for Russian); U. Appl. Chem. U.S.S.R., 1952, No. (2), 163-167, 253 (in English). The rate of decomp. was determined by measuring the current flowing in a short-circuited graphite/amalgam cell by a compensation method. The alkali soln. was prepared by diluting 10% NaOH obtained by electrolysis of NaCl with a Hg cathode. Values of i_d for a 0.1% Na amalgam in NaOH soln. (44-700 μ A/cm² at 30-90° C. and for 0.1% Na amalgam in soln. containing 48% (at 30° C.) to 91.6% NaOH (at 300° C.) are tabulated. Difficulty was experienced in obtaining reproducible results, because of the sensitivity of the graphite electrode to contamination. The results are discussed in terms of the operating conditions of amalgam-decomposing cells. — G. V. E. T.

9-9-54

Decomposition of emigrants
R. A. Kabanov, M. I. Kabanov, F. G. Kabanov, N. V. Kabanov,
M. I. Kabanov, and A. I. Kabanov

Packing for decomposition of emigrants G. I. Volkov,
R. A. Kabanov, M. I. Kabanov, F. G. Kabanov, N. V. Kabanov,
M. I. Kabanov, and A. I. Kabanov
M. I. Kabanov, F. G. Kabanov, N. V. Kabanov, M. I. Kabanov,
and A. I. Kabanov
M. I. Kabanov, F. G. Kabanov, N. V. Kabanov, M. I. Kabanov,
and A. I. Kabanov

KLITSENKO, I. T.

KLITSENKO, I. T. -- "The Effect of Salt (NaCl) Nutrition on the Metabolism and Productivity of Dairy Cows." Min Higher Education Ukrainian SSR. Ukrainian Order of Labor Red Banner Agricultural Academy. Kiev, 1955. (Dissertation for the Degree of Candidate in Agricultural Sciences)

SO: Krizhnaya Letopis', No 1, 1956

KOLONIY, Vladimir Panteleymonovich, kand.biolog.nauk; KLITSENKO, O.T.
[Klytsenko, H.T.], otv.red.; GURENKO, V.A. [Hurenko, V.A.], red.

[Ways of increasing livestock production; practices of the
"Pamiat' Lenina" Collective Farm, Cherkassy District, Cherkassy
Province] Na shliakhu sbil'shennia vyrobnytstva produktiv
tvarynnytstva; z dosvidu kolhospu "Pam'iat' Lenina" Cherkas'koho
raionu Cherkas'koi oblasti. Kyiv, 1960. 39 p. (Tovarystvo dlia
poshyrennia politychnykh i naukovykh znan' Ukraini'koi RSR. Ser.6,
no.5). (MIRA 13:6)

(Cherkassy District--Stock and stockbreeding)

KLITSSENKO, G.T. [Klitsenko, H.T.], kand.sel'skokhospaystvennykh nauk

Preparation of coarse fodder. Nauka i zhizn' 10 no.1:
21-23 Ja '60. (MIRA 13:6)

(Feeds)

KLITSENKO, I.I.; POPOV, V.P.

**Saturation irrigation of crops. Visnyk AN VRSR 24 no.10:
61-62 0 '52.**

(MLRA 919)

(Irrigation)

KLITSENKO, S.

Klitsenko, S. Feeding pigs with corn, Tr. from the Russian. p. 28.

Vol. 10, no. 10, Oct. 1955 KOOOPERATIVNO ZEMELIE Sofiya, Bulgaria

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 2
February, 1956

KLITSENKO, S. T.

Klitsenko, S. T. "The preparation and use of combined corn
silage in raising and fattening pigs." Min Higher Education
Ukrainian SSR. Khar'kov Zootechnical Inst. Khar'kov, 1956.
(Dissertation for the Degree of Candidate in Agricultural
Science)

So: Knizhnaya letopis'. No. 27, 1956. Moscow, Pages 94-109: 111.

USSR/Farm Animals. The Swine

Q-4

Ab. Jour : Ref Zhur - Biol., No 11, 1968, No 50058

Author : Klitronko S.T.

Inst

Title : The Significance of Combined Silage Paddock for Raising and Fattening of Pigs.

Orig Pub : Zhivotnovodstvo, 1957, No 5, 50-52

Abstract : The 1st group of young sows was fed silage containing 50 percent of milky-waxy corn ears, 30 percent of boiled potatoes, 15 percent of squash, and up to 5 percent of alfalfa chaff. The 2nd group received 40 percent of corn silage (stalks and ears) and 60 percent of squash. The 3rd (control) group was given the usual ration, i.e., standard ration for the given farm. During the fattening period, the weight gains which were achieved until parity and sowing conditions were reached in the sows, amounted to 521, 511, and 526 kg per sow of the 3 groups, respectively. Digestibility coefficients for each of the 3 groups were as follows:

Card : 1/2

Card : 2/2

50

COUNTRY : USSR

CATEGORY : Cultivated Plants - Forage Crops.

M

ABO. JOUR. : RZhBiol., No. 11, 1958, No. 6466

AUTHOR : Gorb, T. V., Klitsenko, S. T.

INST. : Kharkov Zootechnical Institute

TITLE : Yields, Chemical Composition and Food Value of Corn During Different Stages of Vegetation.

ORIG. PUB. : Sb. tr. Khar'kovsk. zootekhn. in-ta, 9, 43-56 1957

ABSTRACT : In 1956, productivity, dynamics of the chemical composition and the food value of the corn variety Khar'kovskaya 23 were studied during different stages of vegetation. During the stage of the emergence of the tassels, 246 g of raw mass and 30 g of dry matter were secured from 1 ha; at the stage of wax-ripeness - 325 and 95 g respectively. Corn contains the highest amount of food units and digestible protein in the period of the full ripeness of the kernel. Carotene is concentrated chiefly in the leaves of corn; vitamin C - in the leaves and stems. The amount of carotene

Card: 1/2

COUNTRY	: USSR
CATEGORY	: Cultivated Plants - Forage Crops. M
REF. NO.	: 1.00101., 10.14, 1958, 22.63/65
DATE	:
1. ST.	:
TITLE	:
ORIG. DIR.	:
ABSTRACT	: In corn in the period of full ripeness of the kernels is 2/11 of the amount at wax stage of maturity. With the preparation of corn for silage at wax stage, more nutrients are obtained than at the milk stage of ripeness. -- Io. A. Osorokova

Cards: 2/2

KLITSKAYA, N.A.

Parovarian cysts. Sovet. med. 27 no.9:97-100 3'63

(MIRA 17:2)

1. Iz ginekologicheskoy kliniki (sav. - kand. med. nauk M.S. TSirul(nikov) Moskovskogo nauchno-issledovatel'skogo instituta skoroy pomoshchi imeni N.V.Sklifosovskogo (dir. - zaslushennyy vrach UkrSSR M.M.Tarasov).

KLITSUNOV, V.I., inzhener.

Practical training of electromechanical engineers. Bezop. truda
v prom. 1 no.7:11-12 J1 '57. (KIRA 10:7)
(Electrical engineering--Study and teaching)

KLITSUNOV, V.I., insh.

Cranes at exhibitions in Moscow. Resep. truda v prom. 1 no.12:19-21
D '57, (MIRA 12:3)
(Moscow--Cranes, derricks, etc.--Exhibitions)

KAPELYUSHNIKOV, G.I., inzh.; KLITSUNOV, V.I., inzh.

Injuries caused by electric current and measures for their
prevention. Rasop.truda v prom. 3 no.5:4-7 My '59.

(MIRA 12:8)

(Electricity in mining-- Safety measures)

KLITSUNOV, V.I., inzh.

Achievements of the foremost mine in the Moscow Basin. Bezop. trade
v prom. 2 no. 6:25-27 Ja '58. (MIRA 11:7)
(Moscow Basin--Coal mines and mining--Safety measures)

DOLOTOV, N.P., insh.; ZASLAVSKIY, P.M., insh.; KLITSUNOV, V.I., insh.

Observe safety requirements in designing machines and mechanisms.
Besop. truda v prom. 2 no.7:15-16 J1 '58. (MIRA 11:9)
(Coal mining machinery)

KAPELYUSHNIKOV, German Issakovich; ~~KLITSUNOV~~, Viktor Ignat'yevich;
MIRSKAYA, V.V., red.isd-vs; ~~SHKLYAR~~, S.Ya., tekhn.red.;
BOLDYREVA, Z.A., tekhn.red.

[Safety in the use of electricity in mining] Bezopasnost pri-
menenie elektricheskoi energii v shakhte. Moskva, Gos.nauchno-
tekhn.isd-vo lit-ry po gornomu delu, 1960. 50 p.

(MIRA 14:2)

(Electricity in mining--Safety measures)

TYURKIAN, Raffi Armenakovich; OORLOV, Petr Ivanovich; ZORI, Anatoliy Stefanovich; APONCHENKO, Vladimir Vasil'yevich; KLITSUNOV, V.I., otv. red.; CHECHKOV, L.V., red. 1zd-va; LOMILINA, L.N., tekhn. red.; IL'INSKAYA, G.M., tekhn. red.

[Information for worker on vertical shafts, shaft bottoms, and chambers] Pamiatka prokhodchika vertikal'nykh stvolov, okolostvol'nykh dvorov i kamer. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1960. 71 p.

(MIRA 14:7)

(Shaft sinking)

KLITSUNOV, V.I., inzh.

Valuable initiative of Aleksei Kalinin's brigade. Bezop.
truda v prom. 4 no.3:23-25 '60. (MIRA 13:6)
(Kusnetsk Basin--Coal mines and mining--Safety measures)

KAPELYUSHNIKOV, O.I., insh.; KLITSUNOV, V.I.

Measures for preventing underground fires caused by electricity.

Besop.truda. v prom. 4 no.614-6 Jo '60.

(MIRA 14:3)

(Electricity in mining—Safety measures)

KLITSUNOV, V.I., insh.

Technological development in Altai mines. Bezop.truda v
prom. 4 no.7:26-28 J1 '60. (MIRA 13:8)
(Altai Mountains--Mining engineering)

KLITSINOV, V.I., inzh.

Conference on preventing coal and gas outbursts in mines. Bezop.
truda v prom. 5 no. 2:36-38 F '61. (MIA 14:2)
(Mine accidents--Safety measures--Congresses)

KLITSUNOV, V.I., inzh.

Sanitary and safe working conditions for miners. Bezop.truda v
prom.5 no.3:36 Mr '61. (MIRA 14:3)

(Mine sanitation)
(Mining engineering--Safety measures)

BREGADZE, T.V., inzh.; KLITSUNOV, V.I., inzh.

Increase the responsibility for safe working conditions for miners.
Besop.truda v prom. 5 no.9:13-14 S '61. (MIRA 14:10)
(Mining engineering--Safety measures)

KLITSUNOV, V.I., inzh.

Activity of a regional office of the State Mine Inspection.
Besop.truda v prom. 6 no.2:24-26 F '62. (MIRA 15:2)
(Kuznetak Basin—Mine inspection)

KAPELYUSHNIKOV, German Isaakovich; KLITSUNOV, Viktor Igant'yevich;
MANEVICH, Veniamin Fayvovich; PANKRATOV, Yu.A., inzh., retsen-
zent; ZASADYCH, B.I., retsenzent; FEDOTOV, A.N., otv. red.;
OKHRIMENKO, V.A., red. izd-va; IL'INSKAYA, G.M., tekhn. red.

[Safety measures in underground coal mining] Tekhnika bezopasnosti pri podzemnoi dobyche uгля. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1962. 503 p.

(MIRA 1514)

(Coal mines and mining--Safety measures)

(Coal miners--Diseases and hygiene)

KLITSUNOV, V.I., inzh.

Results of the increase of responsibility for labor safety. Bezop.truda v
prom. 6 no.8:11-12 Ag '62. (MIRA 16:4)
(Vorkuta Basin—Coal mines and mining—Safety measures)

LABOS, E.; SALANKI, J.; KLITYNA, Galina R.

The effect of cholinotropic drugs on the rhythmic activity of glochidia of fresh-water mussel (*Anodonta cygnea* L.). *Acta biol. Acad. sci. Hung.* 15 no.2:119-128 '64

1. Biological Research Institute of the Hungarian Academy of Sciences, Tihany (Head: J. Salanki), and Institute of Physiology, Medical University, Debrecen (Head: St. Went [deceased]).

KLIVANSKAYA, A. A.

25983. Klivenskaya, A. A. O yachmene. Fel'dsher i akusherka, 1949, No 7, s. 52-53

TB Clinic, Inst. Pediatrics, FIMS USSR

SO: Knizhnaya Letopis', Vol. 1, 1955

KLIVANSKAYA, A. A.

27381. KLIVANSKAYA, A. A. Kak udalit' inorodnoye telo iz glazafel'dsher i akusherka, 1949,
No. 8, s. 44-46. EYEBERG, I. E. Nerviaya sistema v patolozhe tuberkuleza.---
Sm. 27368

SO: Letopis' Zhurnal'nykh Statey, Vol. 36, 1949

KLIVANSKAYA, A.A.

25983

O yachmyenye. Fyel'dahyer i akushyerka, 1949, No. 7, c. 52-53.

19 Nyevrologiya

Psikhiatriya

So: Letopis' No. 34

KLIVANSKAYA, A. A.

New method of treatment of gonorrheal ophthalmia. *Feldsher*
& *akush.* no. 8:29-31 Aug. 1950. (CJNL 20:1)

1. Candidate Medical Sciences.

KLIVANSKAYA, A. A.

Toxic effect of sulfonamides on the eye. Vest. oft., Moskva
30 no. 4:32-35 July-Aug 1951. (CML 21:3)

1. Candidate Medical Sciences. 2. Of the Eye Room of the
Central Polyclinic of the Administration for Economic Thera-
peutic Institutions (Head Physician -- N. N. Prokimoov).

1. KLIVANSKAYA, A.A.
2. USSR (600)
4. Eyelids - Inflammation
7. Blepharitis and its therapy. Fel'd. i akush no. 6, 1952. Kandidat Meditsinskikh Nauk.
9. Monthly List of Russian Accessions. Library of Congress, September 1952,
UNCLASSIFIED

KLIVANSKAYA, A.A.

Conjunctivitis, Granular

Etiology and clinical aspects of trachoma. *Fel'd. ia kush.*, No. 7, '52.

Monthly List of Russian Accessions. Library of Congress, October 1952. UNCLASSIFIED

KLIVANSKIYA, A.A.

Conjunctivitis, Granular

Therapy and prevention of trachoma. *Fel'd. i akush*, No. 8, 1952.

Monthly List of Russian Acquisitions. Library of Congress, November 1952. UNCLASSIFIED

KLIVANIKAY, A. A.

Ussr/Medicine - Tissue Therapy

Box 52

"Use of Aloe in Eye Treatment," A. A. Klivanikay,
Sov Med Sci

"Gel'aber 1 Akusher" No 11, pp 55, 56

Aloe is now used in the treatment of incipient cataract and the usual treatment for trachoma and glaucoma is supplemented with injections of this extract. For various infections of the eyes, it is used in combination with other animal and plant tissues. Aloe injections stimulate the human organism raising its defensive power to combat malignant diseases which affect the whole organism or any part

23574

of it. Aloe extract and other biogenic stimulants have been widely used both in external application and in the treatment of the inner membrane of the eyes. Aloe also has been used in the treatment of recurrent sties, persistent blepharitis, various degrees of dimness of cornea, and severe forms of myopia. Even diseases such as atrophy of optic nerves, which do not easily yield to treatment, respond well in some cases to biogenic stimulants.

23574

KLIVANSKAYA, A.A., kandidat meditsinskikh nauk

Treatment and prophylaxis of conjunctivitis in agricultural
workers. Med.sestra 15 no.4:9-10 Ap '56. (MLRA 9:7)

(CONJUNCTIVITIS)

(AGRICULTURAL LABORERS--DISEASES AND HYGIENE)

KLIVANSKAYA-KROL', Ye. S.

(Prof.)

"Stomach and Duodenum Ulcers in Children," Sov. Med., No.1, 1948
Clinic of Children's Diseases, Med. Faculty, Sverdlovsk Med. Inst.

KLIVAROVA, E., MUDr., CSc.

Methods of determination of scientifically justified staffing
requirements of the hygiene service at the district level.

Cesk. sdrav. 13 no. 7/8:354-361 Ag '65.

1. Vyzkumny ustav organizace sdravotnictvi v Praze.

Country : Hungary B-8
 Category= : Thermodynamics. Thermochemistry. Equilibria.
 Physico-Chemical Analysis. Phase Transitions. 18459
 Abs. Jour. : Ref Zhur-Khimiya, No 6, 1959
 Author : Grasselly, Gy.; Klivenyi, E.
 Institut. :
 Title : Concerning the Thermal Properties of the
 Manganese Oxides of Higher Valencies
 Orig. Pub. : Acta mineral.-petrogr. Szeged, 1956, 9, 15-32

Abstract : Study of behavior of manganese oxides on heating
 in presence of air, for 3 hours, in temperature range 460°-
 1050°. Temperature dependence curves of Mn:O ratio in oxides
 were obtained for pure synthetic MnO₂ (I), Mn₂O₃ (II), Mn₃O₄
 (III), and mixtures I + II, I + III, II + III, with initial
 component ratios 1:3, 1:1, 3:1, and of I + II + III, with
 initial component ratios 5:3:2, 2:1:2, 2:3:5. By the oxalate
 method a determination was made, with an accuracy of ± 0.2%,
 of the amount of active oxygen in the mixtures, after heating
 Average composition of mixtures after calcining: at 460°
 MnO₂.992; at 700° Mn₂O₃; at 1050° Mn₃O₄.008. III in mixtures
 Card: 1/2

B-12

Country : Hungary B-8
 Category : Thermodynamics. Thermochemistry. Equilibria.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723210003-3
 Abs. Jour. : Ref Zhur-Khimiya, No 6, 1959 18459

Author :
 Institut. :
 Title :

Orig Pub. :

Abstract : with I or II, or in the presence of both
 components, is completely oxidized to homogenous II in the
 interval 560-880°, which is confirmed by chemical and by
 X-ray analyses. -- I. Sokolova.

Card: 2/2

KLIVENY 11

27

Stability of Mn_2O_3 . Cf. Orpenny and R. K. Everett, *Univ. of Calif. Publ. Chem.*, 1940, 1, 1. *Acta Chem. Scand.*, 1940, 4, 23. (in English). — A mixt. of Mn_2O_3 and MnO is completely changed to Mn_2O_3 at 800° , or to Mn_3O_4 above 940° . The change from Mn_2O_3 to Mn_3O_4 is possible only when O_2 is at a partial pressure of the atm., and does not occur if a mixt. of MnO and Mn_2O_3 is heated in N_2 . A procedure is described for detg. the compn. of a mixt. of Mn oxides by thermal analysis. Walter R. Averett.

4

Ja

HUNGARY / Cosmochemistry: Geochemistry. Hydro-chemistry. D

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 26872.

Author : Grasselly, O. and Klivanvi, E.

Inst : Not given.

Title : A Method for Determining the Mineral Composition of Sedimentary Manganese Oxide Ores on the Basis of Their Thermal Properties.

Orig Pub: Acta Miner.-Petrog. Szeged, 10, 33-46 (1957) (in English).

Abstract: The earlier developed method for the analysis of the system $MnO - Mn_2O_3 - MnO$ (RZhKhim, 1959, 26814) is applied to the determination of the mineral composition of 12 specimens from various Hungarian deposits containing pyrolusite (I), manganite (II), and psilomelane (III). Thermal analysis has shown

Card 1/2

Country : G
 Category :
 Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15363
 Author :
 Institut. :
 Titlo :
 Orig. Pub. :
 Abstract cont'd. : of isoeugenol (IV), of 4-ethoxy-3-benzyloxy-propenylbenzene (V) and of 3,4-diethoxypropenylbenzene (VI) was shown. In the course of the investigation, it was proved that partial debenzylation of I and subsequent methylation lead not to dimethoxybenzyloxyphenylenedane (see Baker, W. et al., J. Chem. Soc., 1952, 4310), but to monomethoxytribenzyloxyphenylenedane. 3.3 g. of I in 60 ml. of CH₃OH are hydrogenated over 0.3 g. of Pd/C, filtered in
 Card: 2/6

G - 32

APPROVED FOR RELEASE: 06/19/2000 LT, CIA-RDP86-00513R000723210003-

VINKLER, Elmer (Szeged, Beloianniss ter 9, Hungary); KLIVENYI, Elmer (Szeged, Beloianniss ter 9, Hungary)

Antimicrobial activity of aromatic thiolulphonates and thiolulphonates. Acta biol. Hung 12 no.2:121, 126 '61.

1. Institute for Plant Physiology, University of Szeged (Head: I. Szalai) and Institute for Pharmaceutical Chemistry, Medical University, Szeged (Head: D. Roszegi).

*

FERENCZY, Lajos (Szeged (428), Hungary.); ZSOLT, Janos (Szeged (428), Hungary.); VINKLER, Elemer (Szeged, Beloiannisz ter 9, Hungary.); KLIVENYI, Elemer (Szeged, Beloiannisz ter 9, Hungary.)

Antimicrobial activity of aromatic thioisulphonates and thioisulphonates. Acta biol Hung 12 no.2:121-126 '61.

1. Institute for Plant Physiology, University of Szeged (Head: I. Szalai) and Institute for Pharmaceutical Chemistry, Medical University, Szeged (Head: D. Koszegi).

*

KLIVENYI, FERENC

The kinetically reduction of benzoyl chloride to a mechanism for thionyl chloride. I. Elementary Yielding and Thionyl Chloride (1957, 1958). *Acta Chem. Acad. Sci. Hung.* 1, 311-34 (1957) in German. -- PhSO_2Cl (I) (14.13 g.), 100 ml. Et_2O , and 11.4 g. Zn dust (98.75% pure Zn in 8 cases), treated in 45 min. with 50 ml. concd. HCl with stirring, the mixt. stirred and reduced until the Zn disappeared, the Et_2O phase sep., washed with Na_2CO_3 soln., and H_2O , dried, and the Et_2O evapd., gave 8.0 g. (80%) PhSO_2SH (II), needles (from $\text{MeOH-H}_2\text{O}$), m. 58-60°. Similarly, 1.7 g. PhSO_2H , 80 ml. Et_2O , 0.8 g. Zn dust, and 10 ml. concd. HCl gave 0.4 g. crude II. I (17.8 g.) added dropwise with stirring to 25.7 ml. concd. H_2SO_4 , and 143 g. crushed ice below -5°, the mixt. treated gradually with 23.78 g. Zn dust below 0°, stirred 1 hr. more, warmed gradually to room temp., heated to boiling, refluxed 30 min. till the Zn disappeared, some PhSH steam distd., the residue acid, with CaH_2 the ext. washed with H_2O dried, and the CaH_2 evapd. gave 8.4 g. (96.4%) Ph_2S (III), m. and stirred m.p. 60-1° (from MeOH). II (8.0 g.), 80 ml. MeOH , and 1.55 g. Zn dust, treated with 14 ml. concd. HCl at 0° with stirring, the mixt. gradually heated to boiling, refluxed until the Zn disappeared, steam distd., and worked up as above gave 1.7 g. III. According to the method of Schiller and Otto [Ber. v. 1908 (1978)], 1.7 g. PhSO_2H and 1.86 g. PhSH in 25 ml. H_2O , the extracted PhSH steam distd., the residue acid, with CaH_2 , the ext. dried, and the CaH_2 evapd. gave 1.4 g. (48%) crude III. The reduction of I is postulated to go through the steps I \rightarrow PhSO_2H \rightarrow II \rightarrow III \rightarrow PhSH .

Richard I. Ahavial

B I

Klivenyi, F.

Determination by a chemical method of the structure of aromatic thiosulfonic esters. 1. E. Viole and P. Klivenyi (Univ. de Genève, *Helv. Chim. Acta*, 33, 1064 (1950); German (English summary).—Decision between the structures $RS(O)_2SR'$ (I) and $RS(O)OSR'$ (II) (R and R' both aromatic) for thiosulfonic esters has not previously been made by chem. methods, and only recently by infrared spectroscopy (Cymerman and Willis, *C.A.* 45, 8354e). Repetition of earlier reductions by HI and $NaHSO_3$ (Miller and Smith, *C.A.* 19, 1133; Hineberg, *C.A.* 3, 650) in general substantiated the previous results. Similar addnl. reductions were carried out on I (or II) ($R = R' = p\text{-ClC}_6\text{H}_4$) and ($R = p\text{-ClC}_6\text{H}_4$, $R' = \text{Ph}$) to give likewise $p\text{-ClC}_6\text{H}_4\text{SO}_2\text{H}$ and (PhS). Since the mat. was split in all such reductions, no decision between I and II was yet possible. By using Zn and HCl (*C.A.* 46, 2346i) in aq. equiv. to 3 and 4 H-atoms per mole I, resp., decision might finally be made. The given wt. of I was dissolved in 50 ml. Et_2O , the Zn dust added, the fuming HCl dropped in during 10–20 min. under stirring and ice-cooling, the mat. reduced until all Zn had dissolved, cooled, the Et_2O layer (A) washed with 1% NH_4OH , the aq. soln. acidified with concd. HCl , and 3 g. FeCl_3 added to give the orange-red $\text{Fe}(\text{O}_2\text{SR})_3$ (III). The filtrate from III was washed with Et_2O and the dried Et_2O layer evapd. to leave the RSR' . A was washed repeatedly with H_2O , dried over CaCl_2 , and the Et_2O evapd.

to leave the oily (RSR'). All products were identified by mixed m.p. with authentic samples. R, R', wt. found (g.), H-atoms II per mole I, duration of reaction (min.), g. Zn, and HCl , products, yield (g.), and m.p. are given: Ph, Ph, 1.35, 2, 30, 0.66, 5, PhSO_2SPh , 0.5, 44° and (PhS), 0.43, 80°; Ph, Ph, 1.25, 4, 43, 1.33, 5, (PhS), 0.9; $p\text{-MeC}_6\text{H}_4$, $p\text{-MeC}_6\text{H}_4$, 1.39, 4, 45, 1.59, 5, ($p\text{-MeC}_6\text{H}_4\text{S}$), 0.9, 46°; $p\text{-MeC}_6\text{H}_4$, $p\text{-MeOC}_6\text{H}_4$, 1.8, 4, 30, 0.43, 10, ($p\text{-MeOC}_6\text{H}_4\text{S}$), 1.2, 40°; $1\text{-C}_6\text{H}_5$, $1\text{-C}_6\text{H}_5$, 1.79, 4, 44, 1.8, 10, ($1\text{-C}_6\text{H}_5\text{S}$), 1.4, 83°; $p\text{-ClC}_6\text{H}_4$, $p\text{-ClC}_6\text{H}_4$, 1.6, 4, 30, 0.33, 5, ($p\text{-ClC}_6\text{H}_4\text{S}$), 1.3, 70° and $p\text{-ClC}_6\text{H}_4\text{SO}_2\text{H}$, 0.19, 83°; (IV) Ph, $p\text{-MeC}_6\text{H}_4$, 1.33, 2, 30, 0.43, 5, PhSO_2H , 0.15, 80° and $p\text{-MeC}_6\text{H}_4\text{SH}$, 0.3; (V) $p\text{-ClC}_6\text{H}_4$, Ph, 2.3, 2, 30, 1.59, 10, $p\text{-ClC}_6\text{H}_4\text{SO}_2\text{H}$, 0.8, 83° and (PhS), 0.4 and V, 0.8, 80° and PhSH , 0.3; Ph, $p\text{-MeC}_6\text{H}_4$, 4, 4, 45, 4.85, 10, ($p\text{-MeC}_6\text{H}_4\text{S}$), 2, 35° and $p\text{-MeC}_6\text{H}_4\text{SH}$, 0.5 and PhSO_2H , 1.2; $p\text{-MeC}_6\text{H}_4$, Ph, 2.64, 4, 30, 2.19, 10, $p\text{-MeC}_6\text{H}_4\text{SH}$, 0.8, 84° and (PhS), 0.7; Ph, $p\text{-MeC}_6\text{H}_4$, 2.64, 4, 30, 2.19, 10, PhSO_2H , 0.1 and ($p\text{-MeC}_6\text{H}_4\text{S}$), 1.7, 44° and $p\text{-MeC}_6\text{H}_4\text{SH}$, 0.7; $p\text{-MeC}_6\text{H}_4$, Ph, 2.64, 4, 30, 2.19, 10, $p\text{-MeC}_6\text{H}_4\text{SH}$, 0.3, 89° and (PhS), 0.7 and PhSH , 0.7; Ph, $p\text{-ClC}_6\text{H}_4$, 2.64, 4, 30, 2.19, 15, ($p\text{-ClC}_6\text{H}_4\text{S}$), 1.1, 71° and PhSO_2H , trace; $p\text{-ClC}_6\text{H}_4$, Ph, 2.64, 4, 30, 2.19, 15, $p\text{-ClC}_6\text{H}_4\text{SH}$, 0.3, 83° and (PhS), 0.83; $p\text{-MeC}_6\text{H}_4$, $p\text{-MeC}_6\text{H}_4$, 2.75, 4, 30, 2.19, 15, $p\text{-MeC}_6\text{H}_4\text{SH}$, 0.33, and ($p\text{-MeC}_6\text{H}_4\text{S}$), 0.98; IV, 1.22, 4, 130, 0.43, 5, PhSO_2H , 0.09 and ($p\text{-MeC}_6\text{H}_4\text{S}$), 0.9 and IV, 0.3. The preceding I (R = R')

KLIVENYI, F.

HUNG.

Production of aromatic thionaphthene esters and disulphides by bimolecular reduction of sulphonaphthyl chlorides. B. KLIVENYI and F. HUNG. *Acta chim. hung.*, 1964, 8, 199-209. The equations $2R-SO_2Cl + 3Zn + 4HCl \rightarrow R-SR + 3ZnCl_2 + 2H_2O$ and $2R-SO_2Cl + 3Zn + 4HCl \rightarrow R-SR + 3ZnCl_2 + 2H_2O$ appear to be general expressions for the conversion of aromatic sulphonyl chlorides into aromatic thionaphthene esters and disulphides respectively. Fuming HCl (d 1.19) is added gradually to a stirred mixture of α -C₁₀H₇SO₂Cl and Zn dust at 60° which is then warmed until dissolution of the metal is complete. The ethereal layer is freed from sulphonaphthene acid, dried and distilled giving α -tolyl α -toluenethionaphthene, m.p. 66-67°, in 87% yield. The following compounds are prepared similarly: *p*-tolyl *p*-toluenethionaphthene, C₁₄H₁₁O₂S, m.p. 66-67°; *p*-methoxyphenyl *p*-methoxybenzenethionaphthene, C₁₄H₁₁O₄S, m.p. 110-112°; *p*-methoxyphenyl *p*-methoxybenzenethionaphthene, C₁₄H₁₁O₄S, m.p. 110-112°; *p*-acetamidophenyl *p*-acetamidobenzenethionaphthene, m.p. 225° (decomp.); *m*-carboxyphenyl *m*-carboxybenzenethionaphthene, C₁₄H₉O₄S, (78%), m.p. 216-217° (decomp.); *p*-chlorophenyl *p*-chlorobenzenethionaphthene (84%), m.p. 152-154°; 1-naphthyl naphthalene-1-thionaphthene (100%), m.p. 118-120° (lit. 104-106°). When reaction is carried out similarly but with use of a larger proportion of Zn the products are di- α -tolyl (83%), m.p. 36-38°, di-*p*-tolyl (80%), m.p. 44-45°, di-*p*-methoxyphenyl (87%), m.p. 44-45°, di-*p*-acetamidophenyl (78%), m.p. 120-121°, and 180-182° respectively. *pp*-dicarboxyphenyl (100%), m.p. 230-240° (decomp.), *pp*-dichlorophenyl (73%), m.p. 70-71°, and di-1-naphthyl thionaphthene (100%), m.p. 66-68°.

H. WARR.

Klivenyi, I.

Distr: 4E2o (J)/
4E3d

Reactions of sulfone anhydrides. ⁷ Elmer Visker and
Klaus Klivenyi (Oxyanhydride) ~~Reynold G. L. Smith~~
Vestibular Institute, Szeged, Hungary. ~~Magyar Kém. Folyóirat~~
86, 85-8 (1984).—Using the method of Zincke and Parr
(C.A. 6, 2937), sulfone anhydrides were prepared that do not
contain NO₂ and CO groups, thus permitting study of their
reactions. These compounds have the general formula
(ArS)₂O, where Ar is p-tolyl (I), p-anisyl (II), p-chlorophenyl
(III), or 1-naphthyl (IV). Ether solns. of I and II mixed
with fuming HCl at room temp. changed into thiocarbonates,
while III and IV remained unchanged. III and IV cannot be
reduced by excess Zn and HCl. III may be oxidized by
potassium dichromate in H₂O-Ac₂O to disulfide. Upon
chlorination, III will split into sulfonyl chloride and p-chloro-
benzenesulfonyl acid chloride. I and IV decomposed into sul-
foxides and thiols with ZnCH_3MgCl . Lamy C., Arval.

4
2-m
3
11

98